

SAFETY DATA SHEET

1. IDENTIFICATION

Product name: 4-(2-chloroethyl)morpholine hydrochloride

CAS No. : 3647-69-6

Brand: Macklin

Company: Shanghai Macklin Biochemical Co.,Ltd.

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2. HAZARDS IDENTIFICATION

GHS classification

PHYSICAL HAZARDS

Not classified

HEALTH HAZARDS

Acute toxicity (Oral) Category 3

Acute toxicity (Dermal) Category 4

Skin corrosion/irritation Category 1C

Serious eye damage/eye irritation Category 1

ENVIRONMENTAL HAZARDS

Acute aquatic hazard Category 3

Long-term aquatic hazard Category 3

GHS label elements, including precautionary statements

Pictograms or hazard symbols

Signal word

Danger

Hazard statements

Toxic if swallowed

Harmful in contact with skin

Causes severe skin burns and eye damage

Harmful to aquatic life

Harmful to aquatic life with long lasting effects

Precautionary statements

[Prevention]

Do not breathe dust/fume/gas/mist/vapours/spray.

Avoid release to the environment.

Do not eat, drink or smoke when using this product.

Wash hands thoroughly after handling.

Wear protective gloves and eye/face protection.

[Response]

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Wash contaminated clothing before reuse.

Immediately call a POISON CENTER or doctor/physician.

[Storage]

Store locked up.

[Disposal]

Dispose of contents/container through a waste management company authorized by the local government.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture: Substance

Components: 4-(2-chloroethyl)morpholine hydrochloride

CAS No.: 3647-69-6

Chemical Formula: $C_6H_{12}ClNO \cdot HCl$

4. FIRST AID MEASURES

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Immediately call a POISON CENTER or doctor/physician.

Skin contact: Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Immediately call a POISON CENTER or doctor/physician.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Ingestion: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.

Protection of first-aiders: A rescuer should wear personal protective equipment, such as rubber gloves and air-tight goggles.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Dry chemical, foam, water spray, carbon dioxide.

Specific hazards arising: Take care as it may decompose upon combustion or in high temperatures to form the chemical: generate poisonous fume.

Precautions for firefighters: Fire-extinguishing work is done from the windward and the suitable fire-extinguishing

method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Remove movable containers if safe to do so.

Special protective equipment for firefighters: When extinguishing fire, be sure to wear personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, Protective equipment: Use extra personal protective equipment (P3 filter respirator for toxic particles). Keep protective equipment and people away from and upwind of spill/leak. Entry to non-involved personnel should

emergency procedures: be controlled around the leakage area by roping off, etc.

Environmental precautions: Prevent product from entering drains.

Methods and materials for containment and cleaning: Sweep dust to collect it into an airtight container, taking care not to disperse it.

containment and cleaning: Adhered or collected material should be promptly disposed of, in accordance with

up: appropriate laws and regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical measures: Handling is performed in a well ventilated place. Wear suitable protective

equipment.

Prevent dispersion of dust. Wash hands and face thoroughly after handling.

Use a closed system if possible. Use a local exhaust if dust or aerosol will be generated.

Advice on safe handling: Avoid contact with skin, eyes and clothing. Conditions for safe storage, including any

Conditions for safe storage, including any incompatibilities

Storage conditions: Keep container tightly closed. Store in a cool and dark place.

Store under inert gas.

Protect from moisture.

Store locked up.

Store away from incompatible materials such as oxidizing agents.

Hygroscopic

Packaging material: Comply with laws.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: Install a closed system or local exhaust. Also install safety shower and eye bath.

Personal protective equipment

Respiratory protection: Dust respirator, self-contained breathing apparatus(SCBA), supplied air respirator,

etc. Use respirators approved under appropriate government standards and follow local and national regulations.

Hand protection: Impervious gloves.

Eye protection: Safety goggles. A face-shield, if the situation requires.

Skin and body protection: Impervious protective clothing. Protective boots, if the situation requires.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state (20°C): Solid

Form: Crystal- Powder

Colour: White - Very pale yellow

Odour: No data available

pH: No data available

Melting point/freezing point:185°C

Boiling point/range: No data available

Flash point: No data available

Flammability or explosive

limits:

Lower: No data available

Upper: No data available

Relative density: No data available

Solubility(ies):

[Water] Soluble

[Other solvents] No data available

10. STABILITY AND REACTIVITY

Chemical stability: Stable under proper conditions.

Possibility of hazardous No special reactivity has been reported.

reactions:

Incompatible materials: Oxidizing agents

Hazardous decomposition Carbon monoxide, Carbon dioxide, Nitrogen oxides (NOx), Hydrogen chloride

products:

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: ipr-mus LD50:161 mg/kg

Skin corrosion/irritation: No data available

Serious eye No data available

damage/irritation:
Germ cell mutagenicity: mmo-esc 21500 nmol/L
mmo-sat 21500 nmol/L (+S9)
Carcinogenicity:
IARC = No data available
NTP = No data available
Reproductive toxicity: No data available
RTECS Number: QE0260000

12. ECOLOGICAL INFORMATION

Ecotoxicity:
Fish: No data available
Crustacea: No data available
Algae: No data available
Persistence / degradability: No data available
Bioaccumulative No data available
potential(BCF):
Mobility in soil
Log Pow: No data available
Soil adsorption (Koc): No data available
Henry's Law No data available
constant(PaM3/mol):

13. DISPOSAL CONSIDERATIONS

Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

14. TRANSPORT INFORMATION

Hazards Class: 8: Corrosive.
Subsidiary risk: 6.1: Toxic substance.
UN-No: 2923
Proper shipping name: Corrosive solid, toxic, n.o.s.
Packing group: III

15. REGULATORY INFORMATION

Regulations on the Control over Safety of Dangerous Chemicals (State Council announces on January 26, 2002 and revised on February 16, 2011): Safe use and production, the storage of a dangerous chemical, transport, loading and unloading were prescribed.

16. OTHER INFORMATION

This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.